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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/855,454	05/15/2001	Ole Agesen	004-4523	9233

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ZAGORIN O'BRIEN & GRAHAM, L.L.P.
7600B N. CAPITAL OF TEXAS HWY.
SUITE 350
AUSTIN, TX 78731

EXAMINER

COURTENAY III, ST JOHN

ART UNIT	PAPER NUMBER
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2126

DATE MAILED: 11/28/2003

7

Please find below and/or attached an Office communication concerning this application or proceeding.

PR29

Office Action Summary

Application No.

09/855,454

Applicant(s)

AGESEN ET AL.

Examiner

St. John Courtenay III

Art Unit

2126

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 May 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-47 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-37 and 43-45 is/are allowed.
- 6) ☒ Claim(s) 38-42, 46 and 47 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2,5,6
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Detailed Action

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 38-42, 46 & 47 are rejected under 35 U.S.C. § 102(e) as being anticipated by **Wolczko** (PCT WO 00/00885).

As per independent claim 38:

Wolczko teaches a computer program product encoded in at least one computer readable medium, the computer program product comprising:

- at least one functional sequence for associating allocation-time information and an instance of a weak reference at least a sampled subset of objects allocated by a storage allocator [e.g., see "age field" and associated discussion page 9, beginning line 7 and also Fig. 5; see also discussion of allocation site histograms, page 9, line 3]; and
- at least one functional sequence for sampling the sampled subset using the weak reference instances and maintaining object lifetime statistics based on the associated allocation-time information and sampled state of the sampled subset [e.g., see page 9, lines 9, i.e., "Next, if the age field plus

one is equal to the tenure value, memory manager 306 tenures the object (step 505)" and associated discussion; see also discussion of allocation site histograms, page 9, line 3].

As per dependent claim 39:

Wolczko teaches at least one functional sequence for tenuring certain object instances in accordance with those of the object lifetime statistics corresponding thereto [e.g., see page 9, lines 9, i.e., "Next, if the age field plus one is equal to the tenure value, memory manager 306 tenures the object (step 505)" and associated discussion; see also discussion of allocation site histograms, page 9, line 3; see also "memory manager 306 tenures [i.e., deallocates or frees] the object (step 505)" and associated discussion page 9, line 9].

As per dependent claim 40:

Wolczko teaches a generational run-time profiler [e.g., see discussion of longevity database histograms and associated discussion p. 8, beginning line 12; see also p. 9, discussion beginning line 19].

As per dependent claim 41:

Wolczko teaches the at least one computer readable medium is selected from the set of a disk, tape or other magnetic, optical, or electronic storage medium and a network, wireline, wireless or other communications medium [see page 5, lines 3 - 5].

As per independent claim 42:

Wolczko teaches an apparatus comprising:

- means for associating allocation-time information with sampled instances of software objects [see selection of generations, page 9, discussion beginning line 2];

- means for referencing the sampled instances of software objects, the referencing means operable for both reachable and unreachable ones thereof [e.g., see "age field" and associated discussion page 9, beginning line 7 and also Fig. 5];
- means for updating lifetime predictions for categories of the software objects based on run-time access to states of corresponding ones of the sampled instances and associated allocation-time information therefor [e.g., see page 9, lines 9, i.e., "Next, if the age field plus one is equal to the tenure value, memory manager 306 tenures the object (step 505)" and associated discussion].

As per dependent claims 46 & 47:

Wolczko teaches at least some of the sampling is performed coincident with death of respective ones of the sampled objects (or instances of sampled objects) [e.g., see "memory manager 306 tenures [i.e., deallocates or frees] the object (step 505)" and associated discussion page 9, line 9].

Allowable Subject Matter:

Claims 1-37, 43-45 appear to be allowable over the prior art of record subject to the results of a final search.

Prior Art not relied upon:

Please refer to the references listed on the attached PTO-892 which are not relied upon in the claim rejections detailed above.

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How to Contact the Examiner:

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to **St. John Courtenay III** whose voice telephone number is **(703) 308-5217**. A voice mail service is also available at this number. Normal Flex work schedule: M – F 7:30 AM - 4:00 PM

- **All responses sent by U.S. Mail should be mailed to:**

Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Patent Customers advised to FAX communications to the USPTO

<http://www.uspto.gov/web/offices/pac/dapp/opla/preognotice/faxnotice.pdf>

Effective Oct. 15, 2003, ALL patent application correspondence transmitted by FAX must be directed to the new PTO central FAX number:

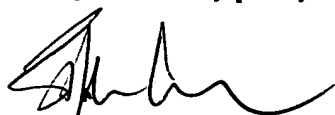
**NEW PTO CENTRAL FAX NUMBER:
703-872-9306**

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- Any inquiry of a general nature or relating to the status of this application should be directed to the **TC 2100 Group receptionist: (703) 305-3900.**

Please direct inquiries regarding fees, paper matching, and other issues not involving the Examiner to:

Technical Center 2100 CUSTOMER SERVICE: 703 306-5631

The Manual of Patent Examining Procedure (MPEP) is available online at:
<http://www.uspto.gov/web/offices/pac/mpep/index.html>


ST. JOHN COURTENAY III
PRIMARY EXAMINER

Paper #7 – First Office Action